

# CLAIMS

1. Food cooking surface for a kitchen utensil or cooking appliance, characterized in that this cooking surface is of an amorphous metal alloy.
- 5 2. Cooking surface according to the preceding claim, characterized in that the alloy contains a nanocrystalline phase.
3. Food cooking surface for a kitchen utensil or cooking appliance according to one of the preceding claims, characterized in that the alloy has the formula  $A_aD_bE_cX_d$  in which:
  - A is one of the elements Zr or Cu,
  - D is at least one element chosen from the group consisting of Ni, Cu, Al if A is Zr or at least one element chosen from the group consisting of Ni, Zr, Al if A is Cu,
  - E is at least one element chosen from the group consisting of Ti, Hf,
  - X represents the impurities of production, with:
    - 20 -  $40 \% < a < 70 \% \text{ at,}$
    - $5 \% < b < 30 \% \text{ at,}$
    - $c < 10\% \text{ at,}$
    - $d < 1 \% \text{ At, and}$
    - $a+b+c+d = 100 \% \text{ at.}$

4. Food cooking surface for a kitchen utensil or cooking appliance according to claim 3, characterized in that the metal alloy is of the formula  $Zr_aCu_bNi_cAl_dTi_eX_f$ ,

- where a, b, c, d, e, are the respective proportions of Zr, Cu, Ni, Al and Ti in the alloy, said proportions being comprised within the following ranges:

- 40 % < a < 70 %

- 10% < b < 25%

- 5% < c < 15%

- 5% < d < 15%

- 2% < e < 10 %,

- where x represents the impurities of production, with f < 1 % at,

- where a+b+c+d+e+f = 100 % at.

5. Food cooking surface for a kitchen utensil or cooking appliance according to one of the preceding claims, characterized in that it is obtained by the deposit of a suitable thickness of metallic material on a substrate.

6. Food cooking surface for a kitchen utensil or cooking appliance according to claim 5, characterized in that the deposit is obtained by cathode sputtering of a massive target.

7. Food cooking surface for a kitchen utensil or cooking appliance according to claim 6, characterized in that the

target is obtained by assembly on a copper substrate of one or several sheets or plates of a material having the desired composition, said sheets or plates being obtained either by powder sintering or thermal projection of powder, or resulting from casting.

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8. Food cooking surface for a kitchen utensil or cooking appliance according to one of claims 5 to 7, characterized in that the material results from a powder of the alloy obtained by grinding of a crystallized alloy, said powder then undergoing a step of vitrification.

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9. Food cooking surface for a kitchen utensil or cooking appliance according to one of claims 1 to 4, characterized in that it is obtained by assembly of an amorphous alloy sheet on a substrate.

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10. Food cooking surface for a kitchen utensil or cooking appliance according to claim 9, characterized in that the sheet is obtained by rolling of an amorphous ingot resulting from melting of a mixture of metals.

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11. Food cooking surface for a kitchen utensil or cooking appliance according to claim 9, characterized in that the sheet is obtained by the technique of solidification on a wheel.

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12. Food cooking surface for a kitchen utensil or cooking  
appliance according to one of claims 9 to 11,  
characterized in that the assembly is carried out by one  
5 of the following techniques: colaminating, brazing, hot  
striking.
13. Food cooking surface for a kitchen utensil or cooking  
appliance according to one of claims 9 to 12,  
10 characterized in that the sheet and the substrate  
undergo, after assembly, a step of forming by stamping.
14. Food cooking surface for a kitchen utensil or cooking  
appliance according to one of claims 5 to 13,  
15 characterized in that the substrate is composed of one or  
more metal sheet(s) of the following materials: aluminum,  
stainless steel, cast iron, steel, copper.